

Claims.

1. (currently amended) A single coil generator comprising:
a rotor journaled in an generator frame, said rotor having a plurality of poles,
a stator with a like number of salient poles, each including alternately wound coils
5 ~~forming~~ coupled to form a single coil with two free ends, generating AC that is connected to an AC load.
2. (original) The generator of claim 1 wherein the output is split into AC and rectified DC.
3. (original) The generator of claim 2 wherein the AC output is connected to a first AC load
through AC rated switches, and the rectified DC is connected to a second DC load
through DC rated switches.
- 10 4. (original) The generator of claim 1 wherein the output is having any combinations of
low and high voltage as well as AC and DC.
5. (original) The generator of claim 1 wherein said rotor is having claw-shaped magnetic poles.
6. (original) The generator of claim 1 wherein said rotor is having permanent magnet poles.
7. (original) The generator of claim 1 wherein said stator poles have same dimensional width
15 as said rotor poles.
8. (original) The generator of claim 2 wherein the AC output is rectified by four diodes
in a bridge circuit and then is connected to a DC load.
9. (currently amended) An output option generator with low loss switching devices comprising:
a generator having a rotor with a plurality of poles, and a stator with a like number of salient poles,
20 each including alternately wound coils ~~forming~~ coupled to form a single coil with two free ends ,
its AC output connected to a first load through AC rated switches,
said AC output rectified and connected to a second load through DC rated switches.
10. (original) The generator of claim 9 wherein said first load consists of incandescent lamps,
heaters and AC motors, and wherein said second load consists of DC motors, actuators and a battery.

11. (original) The generator of claim 9 wherein said first output is voltage regulated with Triac's or S.C.R.'s.
12. (original) The generator of claim 9 wherein the output is split into AC and rectified DC.
13. (original) The generator of claim 9 wherein the output is having any combinations of
5 low and high voltage as well as AC and DC.
14. (original) The generator of claim 9 wherein said rotor is having claw-shaped magnetic poles.
15. (original) The generator of claim 9 wherein said rotor is having permanent magnet poles.
16. (original) The generator of claim 9 wherein said stator poles have same dimensional width as said rotor poles.
- 10 17. (original) The generator of claim 9 wherein the AC output is rectified by four diodes in a bridge circuit and then is connected to a DC load.
18. (original) The generator of claim 9 wherein said four diodes are the sole diodes in the generator system.
19. (original) The generator of claim 1 wherein said alternately wound coils are in a position
15 in front of said rotor poles to generate AC at all times.
20. (original) The generator of claim 6 wherein its construction is brushless and void of slip rings.
21. (original) The generator of claim 8 wherein said D.C. load is having a capacitor connected across it.
22. (original) The generator of claim 2 wherein the AC output and the D.C. output have a common ground.

Without changing the alternators rotor design, the present inventions new type stator winding with the same number of stator poles as the rotor poles, could be done with alternately wound (north/south) coils, connected in series, forming a single coil with two free ends.

Each coil wound on a salient pole on the stator, is having approximately the same angular dimension,
5 or width, as each rotor pole, with the copper winding totally surrounding each salient pole. When the rotors North/South poles are rotating in front of the North/South copper windings, power generation occurs simultaneously on all windings on all coils. This power is concentrated in the multitude of series connected coils extending into two free ends. Where it is ready to be used as AC or split into an AC connected to a first load and rectified DC connected to a second load.

10 The DC load could consist of charging of the battery, the small DC motors that are necessary for doors, windows and mirrors and also DC for ignition.

The present invention could also be described as an efficient generator comprising:
a rotor journaled in an generator frame, said rotor having a plurality of poles,
also having a stator with a like number of poles, each including alternately wound coils
15 forming coupled to form a single coil with two free ends, connected to an AC load.

This new type alternator would be more efficient because substantially all the copper coils are active in front of rotor poles and generating AC all the time, as long as the generator is running. It only requires 4 diodes in a bridge circuit to transform this AC to DC, again with power savings. If required a capacitor could be connected across the D.C. output

20 The present invention could also be described as:

A split output generator with low loss switching devices comprising:

A generator having a first AC output connected to a first load through AC rated switches,
said generator having a second output connected to a set of rectifying diodes,
said rectified output connected to a second load through DC rated switches.

25 All the above mentioned savings of generator/alternator power, the increase in fuel efficiency, at a lower cost with greater reliability, is one of the basis of the present invention.